

REMARKS

Claims 1-20 are pending. Claims 1 and 10 are amended with this response. No new matter has been added, and entry of the amendments are respectfully requested. Reconsideration of the application in light of the following remarks is respectfully requested.

I. REJECTION OF CLAIMS 1-20 UNDER 35 U.S.C. § 103(a)

Claims 1-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over applicants' admitted prior art and U.S. Patent No. 6,468,362 (Chen et al.). Claims 1 and 10 have been amended to more clearly define the invention. Withdrawal of the rejection is respectfully requested for at least the following reasons.

- i. One of ordinary skill in the art would not have been motivated to modify the admitted prior art in light of Chen et al. to arrive at the presently claimed invention, since the surfactant utilized by Chen et al. is removed and the wafer is dried prior to performing any other process steps.*

Claims 1 and 10 are directed to a method for etching a substrate using a wetting agent in a first rinsing of the substrate, with a subsequent second etching of the substrate. In order to clarify the invention, claims 1 and 10 have been amended to recite the performance of the second etching step *after the first rinsing step while the substrate is still wet with the first rinsing agent.* Thus, as the first etching step, first rinsing step, and second etching step are consecutively performed, the substrate is wet with the at least one wetting agent when the substrate is introduced into the third vessel. *Accordingly, the present invention advantageously utilizes the wetting agent of the first rinsing agent to assist in penetrating deep structures during the second etching step.* (See, e.g., page 5, lines 5-12 and lines 18-20).

Chen et al., on the other hand, teach that the surfactant applied to the wafer is either partially or fully rinsed off the surface of the wafer by a pure DI water rinse, thus leaving a hydrophobic wafer. *The surface of the wafer is then dried prior to any*

other process steps. (See, e.g., Chen et al., col. 3, lines 12-23 and Fig. 1). It is clear from the teachings of Chen et al. that the rinse with DI water and subsequent drying of the wafer removes the surfactant from the surface of the wafer, thus providing the desired advantage of limiting water marks from forming on the surfaces of the hydrophobic wafer. Thus, Chen et al. teach a removal of the surfactants and drying of the surface **prior to any other operation being performed on the wafer.** Furthermore, it should be noted that rinsing using surfactants and subsequent drying is commonly known in the art.

The present invention, however, does not have a drying step between the first rinsing and second etch, thus advantageously using the wetting agent of the first rinse to aid in the second etch step. Not only has such a use of surfactants in the second etch step not been seen in the prior art, but one of ordinary skill in the art would not have been motivated to combine the teachings of Chen et al. with Applicants' admitted prior art, since such a combination would also require the drying step to be performed between the first and second etching steps, as would be required by such a combination. Further, such an additional drying step would increase processing time for the etching of the wafer, and as such, one would again have no motivation to combine the teachings of Chen et al. with Applicants' admitted prior art to arrive at the present invention. Accordingly, claims 1 and 10 are non-obvious over the cited art.

Therefore, claims 2-9 and 11-20 are further believed to be allowable over the cited art, and withdrawal of the rejection of claims 1-20 is respectfully requested.

II. CONCLUSION

The claims currently under consideration are believed to be in condition for allowance.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, MAIKP131US.

Respectfully submitted,
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CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: August 16, 2006



Christine Gillroy